

Cotton saving using Addscour Super A success story at Silkon Synthetics and Cotton Dyeing Pvt. Ltd.

About BIO-SCOURING from ADVANCED ENZYTECH SOLUTIONS LTD.

Advanced Enzytech Solutions Ltd. (AESL) is a 100% subsidiary of ADVANCED ENZYME TECHNOLOGIES LTD. (AETL), which is one of the leading enzyme manufacturers in the world.



*Left to right Mr. Jayesh Rao - RSM, AESL; Mr. Mithalal Jain - Director Finance, Silkon;
Mr. Dipak Roda - VP Market and Business Development, AETL;
Mr. Pratik Jain - Director, Silkon; Mr. Kalpesh Jain - Director, Silkon*

AESL is an entity that caters to numerous enzymatic applications in industrial processing, viz. textiles, leather, pulp & paper, detergents and cleaning solutions.

In comparison to the conventional chemical scouring process that involves removal of impurities (like pectin, proteins, wax, gums, oils, hemicellulose) from cotton using hazardous chemicals like caustic and soap to make cotton hydrophilic, bio-scouring process involves the use of biological products like enzyme to make cotton hydrophilic ensuring Eco-Friendly process.

AESL has invested heavily for almost a decade of dedicated R&D on optimizing bio-scouring products & process for cotton, and pioneered the development of ADDSCOUR series of products that offers significant benefits to the processors of cotton yarn, knits, wovens, terry-towels.

About SILKON Group

Silkon group is one of the leading players engaged in manufacturing, job work and selling of fabrics, dyed yarns, fancy yarns and sizing. Mr. Mithalal founded the group in 1976 together with his younger brothers Mr. Sumer and Mr. Ashok and under their leadership the group has expanded into various segments and branched out as Silkon Fabrics Pvt. Ltd, Mahavir Threads Trading Co. and Silkon Synthetics & Cotton Dyeing Pvt. Ltd.

With the infusion of Young & Dynamic next generation lead by Pratik Jain (MBA; Dipl. Textile Chemistry) and Kalpesh Jain (M. Sc. Textile Technology; B. Tech. Textile Chemistry), today Silkon has reached to yarn dyeing capacity up to 300 MT per month, which has catapulted them to one of the leading players in the

industry. While Pratik brings dynamism by way of superior management qualities, Kalpesh enriches the group with his fine knowledge of textiles and machineries.



Excerpts of interview with SILKON Management

1) As one of leading process houses for cotton yarn, which key initiatives did you embark on in past couple of years ?

- Quality Improvement in yarn can be achieved by use of new modern machines, proper process, innovative auxiliaries & dyes.
- We have invested lot of money in R&D (~ 4-5% of our turnover), which includes R&D on process as well as chemicals.
- To improve quality further, we have established linkage with institutes like DKTE, Sasmira, etc. to get joint projects done.
- We have also ordered new lab equipments (worth approx. INR 10 Million, alone in this year) which are first-of-its-kind in Bhiwandi area, and this initiative will make our lab the most sophisticated one.

2) What major challenges have you faced during this period, in terms of manufacturing process (time, energy, costs, hazards, etc.) and yarn output quality?

- Number of suppliers has increased dramatically, and for dyeing units like us it has become very challenging to analyse which chemical / auxiliary suits best.
- Not only that, a big challenge in selecting supplier is authenticity & trust related to quality consistency where MNCs are supposedly far more reliable than their domestic counterparts.
- Yet another challenge for us has been ever increasing cost due to dyes & chemicals, labour wages and electricity (energy).
- Past couple of years, quality consciousness of weavers has gone up drastically; to meet their quality demand we are constantly working closely with our suppliers for machines, dyes and chemicals and engaging in joint development projects.

3) Which is the most crucial step in the yarn processing ... is it scouring? and what problems have you tackled in the conventional process?

- Pre-treatment (PT) and dyeing are more crucial & accountable and at the same time, more complex to handle and hence need more attention.
- Further, success of dyeing depends upon success & quality of PT, especially scouring which is the most critical step; if not handled properly, it leads to huge cost implications due to increased dye consumption, job reworking, wastages in terms of yarn, time, energy, etc.
- Major challenges faced in conventional scouring process:
 - Reduction in yarn strength
 - Weight reduction : cotton loss is high, to the extent of ~4%
 - In some cases, residual alkali (not neutralized completely) affects dyeing adversely
 - Hazards of handling strong alkali like caustic
 - Higher effluent discharge which is hazardous for the environment (too much alkali requires equivalently higher proportion of acid to neutralize, which leads to creation of large qty of salt formation, which ultimately leads to increased TDS in the effluent)

4) Have you been successful in overcoming these issues, and how? Which key factors made you consider "bio-scouring" as an innovative technology?

- When we first heard of 'bio-scouring' process, it seemed to address almost all of the above-mentioned issues to a large extent.

- So we went ahead with trying out "Addscour Super" bio-scouring enzyme from Advanced Enzytech Solutions Ltd. (100% subsidiary of Advanced Enzyme Technologies Ltd.), on the basis of the company's strong claims to address all the above issues, backed by 'GOTS Approved' certification.

5) What finally made you settle down with Advanced Enzymes' "ADDSCOUR SUPER" as a standard process that has eventually replaced your conventional process, and how did you manage to optimize this process?

- After extensive lab studies starting early 2013 and subsequent bulk trials run over 4-5 months' period with strong technical support & guidance from Advanced Enzytech Solutions Ltd., we finally optimized our recipe & process and standardized it with "Addscour Super".
- We are very much satisfied with the product quality consistency and performance, and appreciate the strong support provided by Advanced Enzytech Solutions Ltd. and their active participation in our initiative to implement this process successfully.

6) List down the key benefits that you derived by implementing bio-scouring process with Advanced Enzymes' "ADDSCOUR SUPER", and kindly quantify each one (wherever possible). Elaborate how this product & new process have helped in meeting your quality objectives

- Yarn strength has improved overall
- Cotton weight loss has reduced from 4% to 1.5-2%, which is > 50% cotton saving
- Dye savings to the tune of 3-5%
- Process time has reduced from 8 hrs to 7.5 hrs
- Chemical storage & handling hassles reduced drastically, since caustic reduced by 75%
- Effluent load has decreased

7) On a scale of 1 to 10, where 1 being 'disappointed' and 10 being 'extremely satisfied', how would you rate your overall experience with this product & new process?

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8) On a scale of 1 to 5, where 1 being 'will not recommend' and 5 being 'will be more than glad to recommend', how would you rate your interest in sharing your overall experience with other yarn & fabric manufacturers in your industry?

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